

SMALL FARM FAMILY PROGRAM

08 1981

Swine Diseases

R

Bonnard Moseley, Extension Veterinarian, College of Veterinary Medicine

Iron Deficiency Anemia

Iron is an essential element in the production of red blood cells. Average daily iron requirements are 7 mg to support average growth. Sow milk provides about 1 mg daily.

Clinical Signs. Lack of energy, paleness, "short" labored breathing and fatigue with lowered disease resistance. Death may occur if the condition continues. Surviving pigs generally become rough haired, unthrifty, poor doers, susceptible to other diseases.

Prevention and Treatment. Injectable iron and feeding oral iron are the most common and effective controls. Pigs in confinement should receive oral iron daily or an injectable iron during the first week of life. Supplemental iron can be fed to sows as a means of supplying baby pigs. Iron levels are sufficient in normal feeds to meet requirements of old pigs.

Atrophic Rhinitis

Atrophic rhinitis is a common swine disease causing death loss.

Transmission. Animal to animal transmission is the most common. Mechanical transmission by man or other animals may occur. Cats, rats, and rabbits may be a source of infection. Pigs showing the most severe signs were generally infected during the first few weeks of their life by exposure to infected dams or are on poor nutrition.

Clinical Signs. Stunting, nose deformation (turning up or to one side), shrinking or destruction of cartilage in the nose, sneezing, and nosebleeds are believed the common signs.

Diagnosis. Diagnosis depends upon post mortem examination for lesion.

Prevention. Prevention centers around selecting clean breeding stock, and avoiding the introduction of infected animals to a herd. Control measures are:

- Maintain a closed herd and keep human and animal visitors to a minimum. Isolate replacement boars for one month and observe closely.
- Maintain an old sow herd as much as possible. Most animals develop immunity with age.
- Avoid moving weaned pigs into nursery with older

pigs which may be carriers.

- Culture the nasal cavity of breeding swine for Bordetella if the animals are valuable.
- Practice good sanitation, adequate ventilation and keep stress of other diseases to a minimum.
- The use of sulfonamides and antibiotics in feed. A bacterin was introduced in 1977 which is effective.

Baby Pig Scours (Colibacillosis)

Baby pig scours, also known as white scours during first 10 days of life, is a major problem. The condition is due to E. Coli bacteria. E. Coli are present in the intestine of most animals. Most strains are harmless, but under proper conditions some produce disease. The strains may change or their sensitivity to a drug may change, so that a drug which is effective at one time may later be of little value.

Clinical Signs. Affected pigs have a yellow watery to pasty feces. The tails are wet and hang straight. Pigs are gaunt, dehydrated, depressed and reluctant to nurse. The entire litter may be affected. Surviving pigs often become pot bellied and unthrifty.

Treatment. Early treatment with antibiotics and fluids to correct the dehydration are important. The entire litter is usually treated.

Prevention. Since treatment is time consuming and rather disappointing, prevention is of prime importance. Reduce bacterial population in the farrowing house by good sanitation. Some conditions which make pigs more susceptible to white scours are: 1) Lack of colostrum. Pigs should receive colostrum during the first hour of life. 2) Avoid chilling. 3) Insufficient milk deprives pigs of energy and other elements. 4) Too much milk may overload the intestinal tract. 5) Filth and dampness expose pigs to more bacteria. 6) Anemia due to iron deficiency makes pigs more susceptible to E. Coli. Navel infections should be prevented by dipping navel cords in iodine shortly after birth. Work closely with local veterinarian to control. Diarrhea is a common sign in many diseases so obtain an accurate diagnosis. Autogenous and commercial vaccines may be helpful in preventing or at least reducing the scours. Two injections are usually recommended, the first one

60 -45 days and the second at 30-15 days before farrowing starts.

Swine Arthritis

Leg conformation is related to the incidence of swine arthritis. This is especially true of hogs which spend most of their time on concrete feeding floors. Practically all swine arthritis is due to one of three infectious agents: Streptococcus, Erysipelothrix or Mycoplasma (PPLO) bacteria.

Prevention and Treatment. Treatment for arthritis is usually disappointing. Greatest benefit can come from a prevention program. Select breeding animals with good leg conformation. Reducing stress and early treatment are important. Seek help of veterinarian with a preventive program. Consult area livestock specialist on selection of proper leg and body conformation.

Swine Erysipelas

Swine erysipelas is an infectious disease affecting young and growing swine (also turkeys).

Transmission. The organism is widespread in soil and can be transmitted to susceptible animals by exposure to infected hog lots and pastures. It is possible for recovered animals to be carriers.

Clinical Signs. There are three main forms. (1) Acute septicemic form. This form is fatal. Often first animals found dead, and examination of the herd reveals many other sick animals. (2) Diamond skin form. A more benign form in which diamond-shaped lesions appear which may become gangrenous and large, hard leathery patches of skin cover the lesions. Ears and tail may be lost. Often follows the more acute form and death losses are common. (3) Chronic form. Arthritis and swollen joints are seen. Heart lesions similar to those of man due to rheumatic fever also result.

Diagnosis. Diagnosis is dependent upon clinical history and signs. Post mortem lesions and bacterial cultures are necessary to confirm the diagnosis.

Prevention. Avoid exposing pigs to contaminated lots and pastures. Follow immunization programs under the supervision of a veterinarian. The ideal time to vaccinate sows is 3 weeks before farrowing. Maternal antibodies will be supplied through colostrum for protection of pigs until after weaning. Vaccinate pigs shortly after weaning.

Porcine Stress Syndrome

Most often observed in hogs when they are loaded for market. However, any excitement of shock prone animals may bring on an attack. Shock prone swine can often be recognized by tremors of the tail and occasionally of the flank which may be observed in resting animals. Other problems may be gilts dying without apparent reason when in estrus, young boars dying at the time they are turned in with sows or gilts, and sows dying at farrowing.

Clinical Signs. Clinical signs of the disease include rapid respiration and heartbeat and reluctance to move. Animals may collapse and die within 5 minutes, others

recover within a few minutes. Few lesions are observed; however, blanched and watery muscles, a history of stress, and sudden death suggest presence of the disease. Appears to be moderately heritable.

Prevention. Treatment of affected animals already in shock with tranquilizers and cortizone does not give much benefit. However, pre-treatment with either of these drugs appears to reduce the incidence.

MMA

Swine Mastitis-Metritis-Agalactia Syndrome (MMA) can cause baby pig deaths through starvation. MMA is a complex problem with more than one cause, but one common result—no milk.

Clinical Signs. Just prior to or during the acute stage (24-74 hours) after farrowing, the sows may have a fever, feel depressed and may be off feed. Some mammary glands may be hard and feel hot. Sows lie on their udder to prevent nursing.

Treatment. If milk is not detected at farrowing, call veterinarian immediately. Early treatment gives best results.

Prevention. Washing the udder with a warm towel and a mild disinfectant will stimulate milk let down. Place baby pigs at nipples after drying them off. Provide access to water. Lactating sows need 1½-2 gallons a day to feed a litter of 10 pigs. Be on hand at farrowing and check sows and baby pigs several times the first days after farrowing for signs of no-milk. Reduction of stress is important.

Swine Dysentery

Swine dysentery usually affects weaned pigs. The specific cause is a spirochete bacterium. Incubation period varies from 4 to 14 days. Dysentery retards a pig's growth. The disease is incurable but its effect can be controlled somewhat.

Transmission. The disease spreads through contact with feces of scouring pigs. Some pigs are carriers for several weeks after they have stopped scouring.

Clinical Signs. Dysentery can be confused with other pig scours problems. Laboratory tests are often needed for accurate diagnosis. Feces are usually watery, thickened with mucus, and at some stage are almost bloody because of lesions in the large intestine. Other symptoms include fever, lack of interest in feed, and weight loss. Pigs weaken and may stagger when walking.

Treatment. Treatment aims to reduce death losses and to maintain weight gains. Single treatments are rarely sufficient and may be repeated at one-to-three week intervals. Continuous medication may be necessary. The disease may recur as infection does not establish immunity. Drugs are available through your veterinarian on a prescription basis.

Prevention. Management practices which can help prevent dysentery include: Keep a closed herd; isolate newly purchased pigs for two or three weeks; separate purchased feeder pigs from breeding stock. Keep healthy pigs from lots and buildings used by infected

pigs. Move healthy pigs in a clean truck with new bedding to avoid contamination. Keep infected pigs on concrete and wash floor daily. Buy from herds free from swine dysentery, such as accredited SPF replacement breeding stock. Veterinarians can locate other dysentery-free herds.

Hemorrhagic Syndrome

The cause of hemorrhagic syndrome is thought to be a mycotoxin produced by a mold in feeds that interferes with use of vitamin K for blood clotting.

Clinical Signs. The first indication of hemorrhagic syndrome may be the fatal bleeding of hogs castrated after four weeks of age. Arthritis and lameness may occur. Hematoma (accumulation of blood under skin) of the ears are the first signs observed in other cases. Post mortem examination shows hemorrhaging, especially in the subcutaneous tissue of the legs. Normal pig's blood should clot in 4-5 minutes. If clotting time reaches 12 minutes, it is likely that tissue hemorrhage will result.

Prevention. Accomplished by feed or water supplementation using menadione sodium bisulphite, a synthetic vitamin K, at 2 mg per pound of feed.

Treatment. Use Menadione at 10 mg per pound of feed or 20 mg per gal. of water for five days.

Swine Brucellosis

Swine brucellosis produces infertility and abortions in swine and undulant fever in man.

Transmission. In swine, it spreads by ingestion of bacteria and by the boar at breeding time.

Clinical Signs. Failure to conceive or settle, abortion of premature litters, and birth of weak pigs.

Diagnosis. Diagnosis depends on blood tests. Blood test is considered only a herd test in swine, not an individual test as with cattle.

Prevention. Prevention centers around herd testing and introducing only clean tested animals to a breeding herd. Vaccination in swine is not successful. Sell infected animals for slaughter. Infected animals should be marketed.

Leptospirosis

Leptospirosis is a bacterial disease which affects practically all animals. The initial phase produces a fever. A secondary phase develops when bacteria localize in the kidney and bacteria are shed in urine in enormous numbers for weeks.

Transmission. It is transferred from animal to animal by direct contact or contact with contaminated material. Recovered animals remain carriers indefinitely. Wild animals, especially rodents, may be a source.

Clinical Signs. Abortion of immature pigs, still births, and weak pigs born at full term are common signs.

Diagnosis. Blood test of suspected animals is the most important diagnosing method.

Prevention. Testing and vaccination programs aid in preventing "lepto." Vaccine presently available provides immunity for short duration.

Salmonellosis

Salmonellosis usually occurs in swine several weeks to several months old, but can occur at any age.

Clinical Signs. The only signs of the acute form may be the finding of dead pigs. Pigs with the chronic form are gaunt, rough haired and rear quarters soiled with malodorous fluid feces.

Prevention. Sanitation is important. Sick animals should be separated from others. Recovered animals are prone to remain carriers.

Treatment. Identification of Salmonella bacteria is important in control. Your veterinarian can culture or refer material to a laboratory for culture. Isolation of affected animals and sanitation are the principal controls.

Mange Mites and Lice

Mange Mites. Sarcoptic mange is caused by tiny round parasitic mites which burrow into the skin and feed on lymph, blood, and skin tissues. Female mites deposit eggs in tunnels in the outer skin. Each mite lays from 40 to 50 eggs which hatch into larva in about four days. In 10 to 15 days the mites are full-grown. Young pigs are usually affected most. Baby pigs may become infected from the sows. Infested animals rub and scratch themselves vigorously. The skin thickens, cracks, and often "weeps" or bleeds. Secondary infection sometimes results. Advanced lesions may attract flies to further irritate. Heavy infestations result in weight loss, and downgrading at market.

Lice. A lousy hog will scratch and rub himself vigorously. This rubbing may destroy hair in patches or even wound the skin. Since they feed on blood, lice obtain their food by puncturing the skin of the host with their mouthparts. As in the case of mange mites, the life cycle is passed entirely on the host.

Prevention and Treatment. Thorough spraying or dipping will control sarcoptic mange as well as lice. Several chemicals that control lice may not control mange adequately.

Large Roundworms

The large intestinal roundworm is a thick worm, which, when full-grown, is about the length and diameter of a pencil and yellow to pink in color.

Transmission. Adult worms live in the small intestine where they lay eggs. Eggs pass out with manure and infect in about 2 to 3 weeks. Hogs eat the eggs which then hatch in the intestine. The larvae and immature worms penetrate the intestinal wall and are carried to the liver by the bloodstream. After the worms grow a little, the blood carries them to the lungs where they are coughed up and swallowed. Roundworms complete their life cycle by developing in the intestine where a single female lays thousands of eggs daily.

Clinical Signs. Damage caused mostly by larvae migrating through organs. They cause "white spotted livers" which are condemned on meat inspection.

Weak pigs. It is generally accepted among hog raisers that most hogs have roundworms.

Diagnosis. If you are in doubt, ask your veterinarian to take a sample of the hogs' droppings for a worm egg examination.

Prevention and Treatment. A number of chemicals control roundworms, but careful management and rigid sanitary measures are also necessary.

Pig Pneumonia (Mycoplasma)

Virus pig pneumonia is one of the most widespread diseases in swine. Death losses are small, but economic losses are large. Studies indicate PPLO (Mycoplasma) is the cause rather than a virus.

Transmission. Animal to animal transmission is most common, but mechanical transmission by man and other animals is possible.

Clinical Signs. Coughing and stunting are the most common signs. Animals have a persistent dry cough which does not respond to treatment.

Prevention. Strict sanitation and isolation are necessary to avoid introduction by carrier animals or mechanical transmission. Selection of healthy breeders is also important to prevent introduction to herds. Until a test to detect carrier animals is developed, control of VVP will be difficult.

Smedi

Several viruses are capable of producing smedi. The letters in the name refer to S-stillbirth, M-mummification, ED-embryonic death and I-infertility.

Clinical Signs. Sows that are exposed during the first several weeks of pregnancy absorb the fetuses. Those exposed at one-third to mid-point of gestation may have incomplete adsorption of fetuses and may become no-estrus, no-heat non-breeders.

Prevention. Suggested management is to group sows for breeding one month prior to breeding. Ideally, the boars should be penned adjacent to the sows. Keep the sow group isolated from other similar groups, other boars, and new swine. Another management practice which appears effective is to mix manure from the boar in feed given to sows or gilts before breeding.

Swine Influenza

Swine influenza is a respiratory disease of swine caused by influenza virus, Type A. The disease lowers efficiency of production due to increased time to market. Veterinary expenses and medicines add to production cost. Death loss is less than 1 percent.

Transmission. Introducing infected fluids into the nose will usually cause an infection. The virus can live frozen and dried for years. It can be killed at 135° in 30 minutes, but it survives freezing at -94°. The virus will grow in ferrets and mice.

Clinical Signs. Appears suddenly in herd and disappears as suddenly about a week later. Respiratory symptoms predominate—rapid, jerky breathing, fever, decreased appetite, weakness and depression. The

rapid, jerky breathing is commonly called "thumpy." Some other respiratory diseases mimic swine flu in clinical appearance. Their cause is not known. In other instances a typical flu exists. Symptoms only occur in a few animals in a herd.

Prevention. There is no specific cure. No vaccine is available for prevention. The severity of the disease may be reduced by treatment and careful management procedures. Sick pigs should have water and feed readily available. Additional bedding will provide warmth. Don't put the herd under stress during the outbreak. Cough medicines and other individual treatments may be necessary to stop secondary bacterial infection. Deworming will reduce lung damage from some internal roundworm parasites which aggravate infections.

Transmissible Gastroenteritis (TGE)

TGE is the most dreaded disease of baby pigs. In pigs below 10 days of age it kills nearly 100 percent.

Transmission. Animal to animal exposure and mechanical carriers account for the greatest transmission of TGE. Dogs, foxes, and starlings have been shown to spread the virus.

Clinical Signs. In baby pigs, the signs include severe diarrhea, vomiting and death. Older age groups may exhibit only a mild to severe transient diarrhea.

Diagnosis. Clinical signs, post mortem lesions, and laboratory techniques are used for the diagnosis.

Prevention. Strict sanitation and isolation of age groups is essential. Foot pans containing disinfectants should be used at entries to farrowing areas. Immunization has been accomplished by exposure of sows to the disease so they recovered prior to farrowing. They then provide immunity to their nursing litters. This approach should not be attempted without the approval and supervision of a veterinarian. It introduces the disease on the premises. A commercial vaccine is available. The vaccine stimulates the production of TGE antibodies in the sow's colostrum and milk. Two inoculations are necessary, the first approximately six weeks prior to farrowing and another two weeks before farrowing.

Swinepox

This disease is produced by a virus and is transmitted by direct contact. Any injury to the skin may introduce swinepox virus. Lice are carriers.

Clinical Signs. Affected pigs have a slight fever, some loss of appetite and remain quiet for a few days. Swine are susceptible at any age, but the disease is commoner among younger animals. Round yellow areas form on the belly.

Prevention and Treatment. There is no specific treatment for swinepox. The best control is sanitation. The elimination of external parasites alone will reduce the incidence of the disease. When pox lesions appear good hygienic conditions will prevent secondary infection of the lesions.

■ Issued in furtherance of Cooperative Extension Work Acts of May 8 and June 30, 1914 in cooperation with the United States Department of Agriculture. Leonard C. Douglas, Acting Director, Cooperative Extension Service, University of Missouri and Lincoln University, Columbia, Missouri 65211. ■ An equal opportunity institution.